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ABSTRACT

One of 15 core modules in a 22-module series designed to train vocational education curriculum specialists (VECS), this guide is intended for use by both instructor and student in a variety of education environments, including independent study, team teaching, seminars, and workshops, as well as in more conventional classroom settings. The guide has five major sections. Part I, Organization and Administration, contains an overview and rationale, educational goals and performance objectives, recommended learning materials, and suggested reference materials. Part II, Content and Study Activities, contains the content outline arranged by goals. Study activities for each goal and its corresponding objectives follow each section of the content outline. Content focus is on characteristics of individual learners and how they relate to learning, ways of studying individual learners, and ways of providing for individual differences in vocational education programs. Part III, Group and Classroom Activities, suggests classroom or group activities and discussions keyed to specific content in the outline and to specific materials in the list of references. Part IV, Student Self-Check, contains questions directly related to the goals and objectives of the module, which may be used as a pretest or posttest. Part V, Appendix, contains suggested responses to the study activities from part II and responses to the student self-checks.

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VOCATIONAL EDUCATION CURRICULUM SPECIALIST



Module 1:

Important Differences among Learners

STUDY GUIDE
(TEACHING/LEARNING MODULE)

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

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-Study Guide-

Module 1

**IMPORTANT DIFFERENCES
AMONG LEARNERS**

PREFACE

Who is a vocational education curriculum specialist? The answer to this question is not as simple as it might appear. A vocational education curriculum specialist is likely to work in many different capacities, including, but not limited to: instructor, department chairperson, dean of vocational-technical education, vocational supervisor, principal, state or local director of vocational education, and curriculum coordinator.

The specialist is, perhaps, more identifiable by his/her responsibilities, which include, but are not limited to:

- planning, organizing, actualizing, and controlling the work of an educational team performed to determine and achieve objectives.
- planning, organizing, and evaluating content and learning processes into sequential activities that facilitate the achievement of objectives.
- diagnosing present and projected training needs of business, industry, educational institutions, and the learner.
- knowing, comparing, and analyzing different theories of curriculum development, management, and evaluation and adapting them for use in vocational-technical education.

This teaching/learning module is part of a set of materials representing a comprehensive curriculum development project dealing with the training of vocational education curriculum specialists. The purpose of this two-year project was 1) to design, develop, and evaluate an advanced-level training program, with necessary instructional materials based on identified vocational education curriculum specialist competencies, and 2) to create an installation guide to assist instructors and administrators in the implementation process.

The curriculum presented here is, above all else, designed for flexible installation. These materials are not meant to be used only in the manner of an ordinary textbook. The materials can be used effectively by both instructor and student in a variety of educational environments, including independent study, team teaching, seminars, and workshops, as well as in more conventional classroom settings.

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presently Director,
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University of California Los Angeles
University of Northern Colorado

Overall responsibility for the direction and quality of the project rested with James A. Dunn, Principal Investigator. Project management, supervision, and coordination were under the direction of John E. Bowers, Project Director.

TABLE OF CONTENTS

	Page
PREFACE	iii
ACKNOWLEDGEMENTS	iv
PART I. ORGANIZATION AND ADMINISTRATION	1
Guidelines	1
Overview and Rationale	2
Goals and Objectives	4
Recommended Materials	5
Suggested References	5
PART II. CONTENT AND STUDY ACTIVITIES	9
Goal 1.1	9
Introduction: Similarities and Differences Among Learners	9
Similarities Among Learners	9
Potential Differences Among Learners	11
Causes of Individual Differences	22
Study Activities	24
Goal 1.2	27
Introduction: Purposes of Studying Learners	27
Formal vs Informal Approaches	28
Appropriate Uses of Methods	28
Examples of Reliability and Validity	28
Cautions.	29
Advantages and Disadvantages of Several Methods Commonly Used by Vocational Teachers	30
Study Activities	34
Goal 1.3	35
Introduction: Ways of Providing for Individual Differences	35
Potential Difficulties	35
Educational Approaches to Individual Differences	36
Impact on Vocational Education	38
Study Activities	40

	Page
PART III. GROUP AND CLASSROOM ACTIVITIES	43
Classroom Activities	43
Discussion Questions	47
PART IV. STUDENT SELF-CHECK	53
PART V. APPENDICES	55
Appendix A: Possible Study Activity Responses	55
Appendix B: Possible Self-Check Responses	63

Part I:

Organization and Administration

PART I

ORGANIZATION AND ADMINISTRATION

Guidelines

This study guide has five major sections. Each section contains useful information, suggestions, and/or activities that assist in the achievement of the competencies of a Vocational Education Curriculum Specialist. Each major section is briefly described below.

PART I: ORGANIZATION AND ADMINISTRATION

PART I contains an Overview and Rationale, Educational Goals and Performance Objectives, Recommended Learning Materials, and Suggested Reference Materials. This section will help the user answer the following questions:

- How is the module organized?
- What is the educational purpose of the module?
- What specifically should the user learn from this module?
- What are the specific competencies emphasized in this module?
- What learning materials are necessary?
- What related reference materials would be helpful?

PART II: CONTENT AND STUDY ACTIVITIES

Part II contains the content outline arranged by goals. The outline is a synthesis of information from many sources related to the major topics (goals and objectives) of the module. Study activities for each goal and its corresponding objectives follow each section of the content outline, allowing students to complete the exercises related to Goal 1 before going on to Goal 2.

PART III: GROUP AND CLASSROOM ACTIVITIES

The "Activities-Resources" column in the content outline contains references to classroom or group activities and discussion questions related to specific content in the outline. These activities and discussion questions

are located in PART III and are for optional use of either the instructor or the student. Both the classroom activities and discussion questions are accompanied by suggested responses for use as helpful examples only--they do not represent conclusive answers to the problems and issues addressed. Also contained in the "Activities-Resources" column are the reference numbers of the resources used to develop the content outline. These reference numbers correspond to the numbers of the Suggested Reference Materials in PART I.

PART IV: STUDENT SELF-CHECK

PART IV contains questions directly related to the goals and objectives of the module. The self-check may be used as a pre-test or as a post-test, or as a periodic self-check for students in determining their own progress throughout the module.

PART V: APPENDICES

Appendix A contains responses to the Study Activities from PART II, and Appendix B contains responses to the Student Self-Check. The responses provide immediate feedback to the user and allow the module to be used more effectively for individualized study. They have been included in the last part of the module as appendices to facilitate their removal should the user wish to use them at a later time rather than concurrently with the rest of the module.

Approximately 30 hours of out-of-class study will be necessary to complete this module.

Overview and Rationale

Perhaps the concept that is most widely accepted regarding human development is that individuals are different. "If there is one 'law' of human development, it is that no two individuals are alike" (20). In order for vocational educators and other educators to guide the learning activities of students adequately, they must be able to recognize these differences.

Educators need skill in utilizing appropriate techniques for studying and analyzing these differences. Finally, educators must be able to provide learning experiences that meet these individual requirements.

The purpose of this module is to introduce topics in the psychology of individual differences that are important for designing and operating vocational education systems. The stress is on presenting basic concepts with an emphasis on their practical importance and application.

The module is divided into three major content areas. The first area is an overview of individual differences in the major physical, mental, social, and emotional characteristics of learners in vocational education programs.

The second area is an overview of many of the formal and informal methods of obtaining information about learners as individuals. Included are descriptions of several sources of information: cumulative records, direct observations, interviews, ratings, conferences, tests, and others.

The third area looks at ways of providing for individual differences in vocational education programs. A number of potential solutions for incorporating individual differences into programs and a number of discussion questions are presented to encourage innovative thinking on the part of the student.

The length and purpose of this module does not permit an in-depth study of individual differences. The unit omits the characteristics of the learning process itself and does not give full attention to methods of implementing and evaluating instruction to meet individual needs. Relatively little is included about individuals with special needs, including the disadvantaged and handicapped. Other modules in the series cover these important aspects of educational psychology, and the student is encouraged to pursue these areas.

Goals and Objectives

Upon completion of this module, the student will be able to achieve the following goals and objectives:

GOAL 1.1: DESCRIBE, ANALYZE, AND SYNTHESIZE INFORMATION ON THE CHARACTERISTICS OF INDIVIDUAL LEARNERS, INCLUDING THE WAYS IN WHICH THESE CHARACTERISTICS RELATE TO LEARNING.

Objective 1.11 Specify several reasons for studying individual learners.

Objective 1.12 Describe many of the similarities and differences that can occur among learners.

Objective 1.13 Identify several differences between adult learners and younger learners.

GOAL 1.2: DESCRIBE AND ANALYZE SEVERAL WAYS OF STUDYING INDIVIDUAL LEARNERS.

Objective 1.21 Describe several formal and informal methods of gathering information about learners.

Objective 1.22 Identify the main advantages and disadvantages of each method.

Objective 1.23 Outline several cautions that must be used when studying individuals.

GOAL 1.3: DESCRIBE AND ANALYZE WAYS OF PROVIDING FOR INDIVIDUAL DIFFERENCES IN VOCATIONAL EDUCATION PROGRAMS.

Objective 1.31 Describe several strategies that are being used to accommodate individual differences within vocational education programs.

Objective 1.32 Analyze these strategies in terms of their effect on vocational education programs.

Recommended Materials

1. Krebs, A. H., and Krebs, J. E. "Learning About the Individual Vocational Education Student." In The Individual and His Education, edited by A. H. Krebs. Second Yearbook of the American Vocational Association. Washington, D.C.: AVA, 1972.
2. Law, G. F. "Teaching Strategies for Individual Learning." In The Individual and His Education, edited by A. H. Krebs. Second Yearbook of the American Vocational Association. Washington, D.C.: AVA, 1972.

Suggested References

1. Anastasi, A. Individual Differences. New York: John Wiley & Sons, Inc., 1965.
2. Anastasi, A. Psychological Testing. 2nd ed. New York: The Macmillan Company, 1961.
3. Ausubel, D. P., and Robinson, F. G. School Learning: An Introduction to Educational Psychology. New York: Holt, Rinehart and Winston, 1969.
4. Blair, G. M.; Jones, R. S.; and Simpson, R. H. Educational Psychology. 3rd ed. New York: The Macmillan Company, 1968.
5. Bruner, J. S. On Knowing: Essays for the Left Hand. New York: Atheneum Press, 1971.
6. Bruner, J. S. Toward a Theory of Instruction. New York: W. W. Norton and Company, 1966.
7. Combs, A. "Seeing is Behaving." In Readings in Curriculum, 2nd ed., edited by G. Hass, K. Wiles, and J. Bondi. Boston: Allyn and Bacon, 1970.
8. Cronbach, L. J. Essentials of Psychological Testing. 3rd ed. New York: Harper and Row, Publishers, 1970.
9. Crow, A., ed. Educational Psychology. Rev. ed. Totowa, N. J.: Littlefield, Adams and Company, 1972.

10. Division of Vocational Education, UCLA. Foundations in Vocational Education. Phase 1. Los Angeles: Division of Vocational Education, 1975.
11. Division of Vocational Education, UCLA. A Guide for the Development of Vocational and Technical Education. Los Angeles: Division of Vocational Education, 1969.
12. Educational Psychology: A Contemporary View. Del Mar, California: CRM, Inc., 1973.
13. Erikson, E. H. Childhood and Society. 2nd ed. New York: W. W. Norton and Company.
14. Erikson, E. H. Identity: Youth and Crisis. New York: W. W. Norton and Company, 1968.
15. Gagné, R. M. The Conditions of Learning. 2nd ed. New York: Holt, Rinehart, and Winston, 1970.
16. Gagné, R. M., ed. Learning and Individual Differences. Columbus, Ohio: Charles E. Merrill Publishing Company, 1967.
17. Garry, R., and Kingsley, H. L. The Nature and Conditions of Learning, 3rd ed. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1970.
18. Ginsburg, H., and Oppen, S. Piaget's Theory of Intellectual Development: An Introduction. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1969.
19. Glasser, W. Schools Without Failure. New York: Harper and Row, Publishers, 1969.
20. Gordon, I. J. "Developments in Human Behavior." In Readings in Curriculum, 2nd ed., edited by G. Hass, K. Wiles, and J. Bondi. Boston: Allyn and Bacon, 1970.
21. Gorow, F. F. The Learning Game: Strategies for Secondary Teachers. Columbus, Ohio: Charles E. Merrill Publishing Company, 1972.
22. Holt, J. How Children Learn. New York: Pitman Publishing Corporation, 1967.

23. Hunter, M. Motivation Theory for Teachers. El Segundo, California: TIP Publications, 1967.
24. Kidd, J. R. How Adults Learn. Rev. ed. New York: Association Press, 1973.
25. Knowles, M. S. The Modern Practice of Adult Education: Andragogy Versus Pedagogy. New York: Association Press, 1970.
26. Krebs, A. H., ed. The Individual and His Education. Second Yearbook of the American Vocational Association. Washington, D.C.: AVA, 1972.
27. Krebs, A. H., and Krebs, J. E. "Learning About the Individual Vocational Student." In The Individual and His Education, edited by A. H. Krebs. Second Yearbook of the American Vocational Association. Washington, D.C.: AVA, 1972.
28. Mager, R. F., and Beach, K. M., Jr. Developing Vocational Instruction. Belmont, California: Fearon Publishers, 1967.
29. Maslow, A. H. Motivation and Personality. New York: Harper and Row, 1954.
30. Report of the Panel on Youth of the President's Science Advisory Commission. Youth: Transition to Adulthood. Chicago: University of Chicago Press, 1974.
31. Rogers, C. R. Freedom to Learn. Columbus, Ohio: Charles E. Merrill Publishing Company, 1969.
32. Tanner, L. N., and Lindgren, H. C. Classroom Teaching and Learning: A Mental Health Approach. New York: Holt, Rinehart and Winston, 1971.
33. Tyler, R. Basic Principles of Curriculum and Instruction. Chicago: University of Chicago Press, 1949.
34. Wellington, J.; Wellington, C. B.; and Lawton, E. "Should Teachers See Student Records?" In Contemporary Issues in Educational Psychology, 2nd ed., edited by H. F. Clarizio, R. C. Craig, and W. A. Mehrens. Boston: Allyn and Bacon, 1974.

35. White, V. Studying the Individual Pupil. New York: Harper and Bros., 1958.
36. White House Conference on Children. Report to the President. Washington, D.C., 1970.

Part II:

Content and Study Activities

PART II

CONTENT AND STUDY ACTIVITIES

Goal 1.1

Content Outline	Activities-Resources
Goal 1.1: Describe, Analyze, and Synthesize Information on the Characteristics of Individual Learners, Including the Ways in which These Characteristics Relate to Learning. A. <u>Introduction: Similarities and Differences Among Learners</u> 1. Human beings are both alike and different in many ways. 2. Certain characteristics are common to almost all individuals of a particular age level, regardless of geographical area, race, culture, or socioeconomic status (33). 3. It is helpful to study these ways in which individuals are similar before studying the ways in which they are different.* B. <u>Similarities Among Learners</u> Humans are alike in many ways. They basically look the same, and they go through the same phases of physical, intellectual, emotional, and social development. In addition, they work to accomplish the same "developmental tasks" during each phase of development.	(33) <u>Basic Principles of Curriculum and Instruction</u>, pp. 9-10. * Students should complete Classroom Activity 1 which relates to Goal 1.1. See Part III.

Content Outline (continued)

1. Stages of Development

- a. Although growth is continuous, the growth process can be divided into the following age sequence for practical purposes:
- (1) prenatal growth (conception to birth);
 - (2) infancy and early childhood (birth through 5 years);
 - (3) late childhood (approximately 6 through 11 years);
 - (4) adolescence (puberty to 20 years);
 - (5) adulthood (21 years to death) (9).
- b. Recent research on adults indicates that there are also developmental stages throughout adulthood.
- c. Each of these stages of growth involves physical, mental, emotional, and social development. Although the patterns are often discussed and studied separately, the interrelationships among them are complex and extremely important (9).*

(9) Educational Psychology, p. 20.

2. Developmental Tasks

- a. Developmental tasks are problems or obstacles that individuals face at different periods of their life development (4).
- (1) The infant or small child must learn to feed himself, to walk, and to play games.
 - (2) The adolescent must learn to achieve emotional independence from his parents and other adults, to relate to members of the opposite sex, and to

(9) Educational Psychology.

* See Discussion Questions A, B, and C in Part III.

(4) Educational Psychology, p. 78.

Content Outline (continued)

acquire a set of values as a guide to behavior.

- (3) The adult faces the tasks of establishing a home, finding work, raising children, and adjusting to declining physical capabilities.
- b. Most individuals do meet and successfully accomplish the developmental tasks of each phase of development and move into the next stage of maturation and growth.
- c. When tasks of one stage are not successfully completed, there may be difficulties in adjusting to the next stage.*

* See Discussion Question D in Part III.

C. Potential Differences Among Learners

1. Age Differences

- a. Students in vocational programs cover a wide range of ages.
 - (1) Secondary programs generally include students from ages 14 or 15 to 18 or 19.
 - (2) Postsecondary programs include young adults through senior citizens.
- b. There are several ways in which older adult learners differ from younger learners (24) (25).
 - (1) differences in expectations of school, teacher, themselves;
 - (2) differences in reasons for attending school; most adults are attending voluntarily;
 - (3) differences in self-concepts; adults

(24) How Adults Learn, pp. 30-51.

(25) The Modern Practice of Adult Education, pp. 39-49.

Content Outline (continued)

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|--|---|
| <p>see themselves as mature, self-directing;</p> <p>(4) differences in experiences;</p> <p>(5) differences in physical needs;</p> <p>(6) differences in willingness to take risks or chances.</p> <p>c. Chronological age does not always indicate the age of the learner in terms of maturation and learning readiness (10).*</p> | <p>(10) <u>Foundations in Vocational Education, Phase I</u>, p. 28.</p> <p>* See Discussion Question E in Part III.</p> |
| <p>2. <u>Sex Differences</u></p> <p>a. Recent developments in the movement toward equality for males and females have reduced some of the stereotypes about each sex, but many remain.*</p> <p>b. With the obvious exception of some physical characteristics, any differences between the sexes in interests, abilities, needs, and so on appear to be the result of social and cultural influences, and these are rapidly changing.</p> <p>c. More men and women are enrolling in vocational education programs for all occupations, regardless of the traditional stereotypes, and this trend is expected to continue.*</p> | <p>* Students should complete Classroom Activity 2 which relates to Goal 1.1.</p> <p>* See Discussion Question F in Part III.</p> |
| <p>3. <u>Differences in Abilities</u></p> <p>a. <u>Physical Abilities</u></p> <p>(1) Individuals differ in their physical strength, manual dexterity, balance, and endurance.</p> <p>(2) They also differ in terms of their senses: vision, hearing, smell, taste, and touch.</p> | |

Content Outline (continued)

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|--|--|
| <ul style="list-style-type: none">(3) These differences can range from special skills and abilities to partial or complete handicaps.(4) Handicaps in physical abilities can often be overcome.b. <u>Intellectual/Mental abilities</u>. All individuals can learn to do a variety of tasks to some degree, but there is a great variation in their rate of learning and in their ultimate degree of competency (10).c. <u>Other Abilities</u><ul style="list-style-type: none">(1) In addition to physical and mental abilities, individuals differ in other skill areas.(2) These areas include communications skills, social skills, coping skills, etc. *4. <u>Differences in Cultural Background</u><ul style="list-style-type: none">a. The members of a particular society tend to show certain behavior and attitude patterns that are peculiar to their culture. For example, most Americans speak English, own televisions, and send their children to public schools.b. A large cultural group, however, usually consists of many subcultures; these may be similar in some respects but may differ greatly in others (9). | <p>(10) <u>Foundations in Vocational Education, Phase I</u>, pp. 28-29.</p> <p>* See Discussion Question G in Part III.</p> <p>(9) <u>Educational Psychology</u>, pp. 26-27.</p> |
|--|--|

- * See Discussion
Question I in
Part III.

Content Outline (continued)

6. Differences in Educational Background

- a. Vocational students differ in the amount and quality of previous education and training they have had.
- b. Many students have had learning problems in school; some have excelled in all courses; others have performed "average" work in most subjects.
- c. Especially in postsecondary vocational education programs, the educational level of students varies greatly.
 - (1) Some students dropped out of high school before graduation;
 - (2) Some graduated from high school; others earned a high school equivalency certificate;
 - (3) Some attended community college or junior college, technical schools, apprenticeship programs, four-year colleges, graduate school, military training programs, and training programs in business and industry.
 - (4) The kind of education that students had in the past will have a great influence on the:
 - (a) length of the course,
 - (b) examples that can be used,
 - (c) vocabulary that will be understood,
 - (d) level of abstraction that might be meaningful. (28).

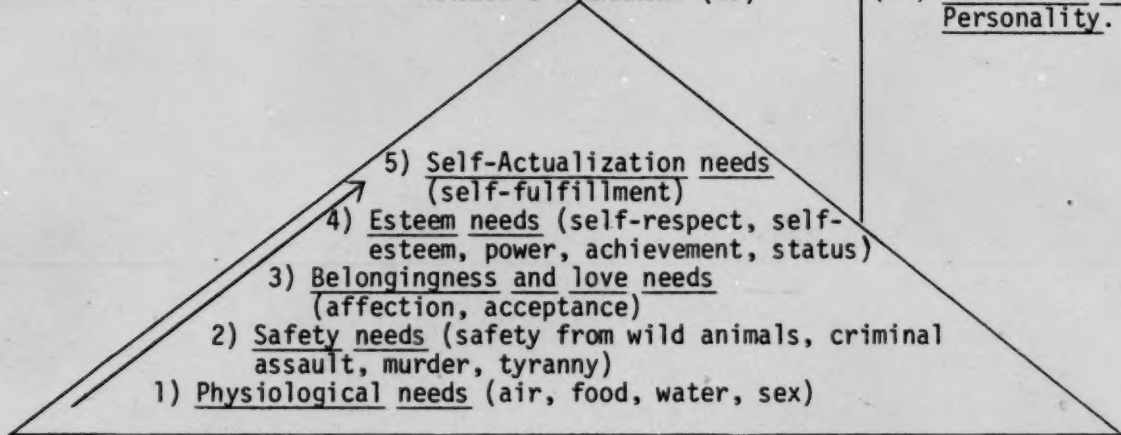
(28) Developing Vocational Education,
p. 26.

Content Outline (continued)

7. Differences in Needs and Desires*

- a. Individuals differ to some extent in their basic needs and desires, although they also share many common needs.
- b. A hierarchy of human needs has been described by A. H. Maslow:

MASLOW'S HIERARCHY (29)



* See Discussion Question J in Part III.

(29) Motivation and Personality.

- c. Generally, individuals will seek to satisfy the lower needs (physiological) before they try to meet their higher-order needs (esteem, self-actualization).
- d. Maslow's theory can be applied to the classroom:
 - (1) Students have difficulty learning theoretical concepts on empty stomachs;
 - (2) A rejected child may have a stronger need for love than to succeed in a paper-and-pencil task (35).

(35) Studying the Individual Pupil, p. 11.

8. Differences in Motivation

- a. Motivation and needs are closely related.
- b. Motivation can be defined as a state of need or desire (motive) that activates the

Content Outline (continued)

- individual to do something that will satisfy that need or desire (23).
 - c. It is important to realize that motivation is the state of unresolved need or desire that exists within the individual. One person cannot motivate another.
 - d. Environmental variables can be manipulated, however, resulting in an increase or decrease in motivation.
 - e. Generally, the more highly motivated the individual, the greater the learning that occurs (17).*
9. Differences in Attitudes and Beliefs
- a. An attitude is the tendency to respond favorably or unfavorably toward a person, object, or situation.
 - b. A belief is the acceptance of some statement or proposition.
 - c. Individuals base their attitudes and beliefs on what they regard as facts. People do not behave according to the facts as others see them; they behave in terms of what seems to be true to them (7).
 - d. Beliefs and attitudes can enhance or impede instruction:
 - (1) People develop favorable attitudes toward things that appear able to help them progress toward a goal.
 - (2) They develop negative attitudes toward anyone or anything that gets in the way.*

(23) Motivation Theory
for Teachers, p. 4.

(17) The Nature and Conditions of Learning, p. 12.

* See Discussion Question K in Part III.

(7) "Seeing is Behaving," p. 211.

* See Discussion Questions L and M in Part III.

Content Outline (continued)

10. Differences in Personality Structure

- a. Individuals differ in such personality factors as perseverance, curiosity, self-confidence, level of aspiration, aggressiveness, etc.
- b. These factors are very similar to motivation in their effect upon learning.
- c. Although these traits can be isolated for research purposes, they operate simultaneously in actual learning situations (17).*

(17) The Nature and Conditions of Learning, p. 12.

* See Discussion Question N in Part III.

11. Differences in Interests

- a. Individuals probably differ most in their interests.
- b. A big debate in education concerns the degree to which student interests should determine what is planned and taught.*

* See Discussion Question O in Part III.

12. Differences in Aptitudes

- a. An aptitude is an existing potential which, with practice and training, may result in good or superior performance in the future (9).
- b. Aptitudes can be identified by demonstrated performance or by standardized aptitude tests.
- c. Individuals may show aptitudes for mechanics, music, foreign languages, science, etc.*

(9) Educational Psychology, p. 121.

* Students should complete Classroom Activity 3 which relates to Goal 1.1. See Part III.

13. Differences in Self-Concepts

- a. What individuals do and how they behave are determined by the picture or concept they have of themselves (4).

(4) Educational Psychology, p. 124.

Content Outline (continued)

- b. A person told over and over that he is bad, stupid, or a failure may begin to act in those terms.
 - c. In addition to self-concept, a person has a picture of an "ideal self"--that is, a picture of the way he or others would like him to be.
 - d. Difficulties arise when the individual perceives that the ideal self is greatly different from the "real self."*
14. Differences in Vocational Maturity
- a. Individuals differ in the knowledge they have about vocations and in the amount of planning and preparation they do for their vocational choice.
 - b. Generally, vocational students are more vocationally mature than other students (26).*
15. Differences in Learning Styles
- a. Individuals differ in the way they approach and complete learning tasks.
 - b. There are at least four distinct learning styles:
 - (1) rigid-inhibited style
 - (a) observes rules rigidly
 - (b) needs constant supervision
 - (2) undisciplined style
 - (a) refuses to do what is asked
 - (b) lacks tolerance for frustration
 - (3) acceptance-anxious style
 - (a) has intense desire for approval
 - (b) worries excessively about being wrong

* See Discussion Question P in Part III.

(26) The Individual and His Education, p. 115.

* See Discussion Question Q in Part III.

Content Outline (continued)

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| <ul style="list-style-type: none">(4) <u>creative style</u><ul style="list-style-type: none">(a) shows self-confidence(b) objectively evaluates own performance(c) performs well on variety of tasks <p>(32)</p> <ul style="list-style-type: none">c. Other learning style differences:<ul style="list-style-type: none">(1) Some prefer to work alone, others in groups.(2) Some are competitive; others fear any competition.(3) Some prefer visual inputs; others prefer auditory (10).(4) Some answer and solve problems impulsively; others tend to reflect.(5) Some show concern for details; others prefer to deal with generalities (21)* <p>16. <u>Individuals with Special Needs</u></p> <ul style="list-style-type: none">a. Individuals with special needs, as defined by federal vocational education guidelines, make up a diverse group.b. Included are the:<ul style="list-style-type: none">(1) culturally and socioeconomically disadvantaged; and(2) physically, mentally, and emotionally handicapped.c. Although individuals in these special groups have certain problems in common, it is incorrect to assume that their problems and needs are the same.d. Each individual with special needs must be considered as an individual, and appropriate educational strategies must be used to meet his needs. | <p>(32) <u>Classroom Teaching and Learning: A Mental Health Approach</u>, p. 165.</p>

<p>(10) <u>Foundations of Vocational Education</u>, p. 30.</p> <p>(21) <u>The Learning Game: Strategies for Secondary Teachers</u>.</p> <p>* See Discussion Question R in Part III.</p> |
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Content Outline (continued)

- e. The trend in some states, including California, is to move away from identifying and segregating students according to their problems and move toward including them in the "mainstream" or regular classes.

* See Discussion
Question 5 in
Part III.

17. Intra-Individual Differences

- a. In addition to the differences that exist among individuals, differences also exist within a given individual.
- b. Psychologists have found that people err when judging a person's total abilities on the basis of information about one specific area. This way of considering people is called the "halo effect."
 - (1) A student thought of as a slow learner may do very well in a specific area. For example, a student failing in math may show exceptional talent in mechanics or photography.
 - (2) Conversely, a student who generally excels in all activities may have specific problems. For example, an excellent student may have problems with spelling.
- c. Individuals can differ from day to day in their own needs, moods, interests, and abilities.
- d. It is important to consider each individual in each situation whenever possible.

Content Outline (continued)

D. Causes of Individual Differences

1. Heredity vs Environment: Nature vs Nurture

- a. Psychologists, biologists, and sociologists continue to debate the relative effects of heredity (nature) and environment (nurture) on the growth and development of the individual.
- b. Individual characteristics are actually the result of interactions between native endowments and environmental experiences (9).

(9) Educational Psychology,
p. 28.

2. Effects of Heredity

- a. Physical structure, height, weight, body contours, the organization of the nervous system, and the rate of skeletal ossification are largely determined by genes.
- b. Their rate and limit of growth are helped or hindered by the environment but major changes are usually effected only by extreme factors.
- c. The effects of heredity on mental or cognitive development are less clear.
- d. It is generally accepted that capacity for intellectual growth is largely determined by heredity but that environmental stimulation, particularly at an early age, can do much to develop that potential to the fullest.

3. Effects of Environment

- a. Some individual traits, such as preferences in food or clothing, are obviously influenced by the environment.

Content Outline (continued)

- b. Others are more of an obvious interaction between heredity and environment.
 - (1) The amount and kind of medical care the mother has during pregnancy may have significant influence upon the prenatal development of the child.
 - (2) An individual's athletic ability is a combination of inherited attributes and regular practice.
- c. From birth, an individual's inherited characteristics are molded according to the following environmental segments:
 - (1) home and family,
 - (2) neighborhood and community,
 - (3) school, and
 - (4) work.

E. Study Activities

Based on your reading of the content outline and any additional references as suggested, complete the following activities.

1. Identify at least three reasons why knowledge of individual characteristics is useful to educators.
2. Consider ways in which you are similar to and different from others you know.

Ways in Which

Other Person	the two of you are similar	the two of you are different
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Parent

Spouse

Friend

Former student or
someone else you
supervised

Boss or other
authority figure

What are some of the effects that these similarities and differences have had on your relationships?

3. Fill in the following table on WAYS INDIVIDUALS DIFFER:

Difference	Example	Implications for Education
a.	X is interested in playing basketball; Y prefers reading.	
b.	X is tall for her age; Y is unusually short.	
c. Learning Style		Provide individual carrels, areas for small group work, programmed instruction, frequent group discussions.
d.	X never graduated from high school; Y has a master's degree.	
e. Cultural Background	X is a Native American raised on a reservation; Y is a Vietnamese refugee from a small village.	
f.		Call on X frequently in class; allow private time for Y's responses whenever possible.

Difference	Example	Implications for Education
g. Social Development		
h.		Provide tutorial help for X; consider using Y as the tutor.
i. Family Background		
j.		Suggest that X complete a work experience in a city govern- ment office; encourage Y to look into an opening on the school newspaper staff.

4. List at least five ways that adult learners and younger learners can differ.

(See Appendix A for possible answers.)

Goal 1.2

Content Outline	Activities-Resources
Goal 1.2: Describe and Analyze Several Ways of Studying Individual Learners. A. <u>Introduction: Purposes of Studying Learners</u> There are at least five main reasons for collecting information about learners: 1. <u>Planning instruction.</u> The most important reason is in order to plan the learning activities, instructional methods, materials, etc. that will best meet the needs of the learner. 2. <u>Identifying potential learning problems.</u> Studying learners enables the educator to identify problems before they become too large. By identifying the problem early, it can be corrected or referred to the appropriate professional help. 3. <u>Showing your personal interest in the learner.</u> By seeking out information about individuals, the educator demonstrates personal interest in them. This attention, if given in a positive way, can be as beneficial as the actual information obtained. 4. <u>Learning about yourself.</u> Such study can reveal new facts about the investigator--biases, strengths, weaknesses, new interests. 5. <u>Gaining knowledge of differential psychology.</u> Studying learners provides the investigator with first-hand, empirical knowledge of differential psychology.	

Content Outline (continued)

B. Formal vs Informal Approaches

Numerous ways exist for studying individuals, from the most casual approaches to the most structured and formal: informal conversations in the hall to timed, pencil-and-paper exams with standardized directions and national norms. All can be used to provide information about learners.

C. Appropriate Uses of Methods

Each approach has advantages and disadvantages. It is important to decide whether or not the method is appropriate for gaining the information needed. Except in the most casual of observations, methods of studying learners should have two important characteristics:

1. they should be consistent; and
2. they should actually sample the behavior, knowledge, or attitudes being studied.

These two characteristics are roughly what psychologists mean when they use the terms reliability and validity.

D. Examples of Reliability and Validity

1. Reliability

- a. Definition: Reliability is a measurement of the consistency of a measurement procedure. Basically it is the similarity of observed measures taken at different times.
- b. If you measure the length of a desk several times, you will get approximately the same results each time. If you check your

Content Outline (continued)

student's typing speed tomorrow, assuming that the material is equivalent, that your student feels the same, and that no significant learning occurs in the meantime, then using the same method as today should produce nearly the same results as today. Similarly, if someone else measures your student's speed with the same method, the result should be the same as yours, within reason.

2. Validity

- a. Definition: Validity, like reliability, is a characteristic of a measure. It is a term that relates to the generalizability of the measure--whether it is measuring what you think it is measuring.
- b. If you wanted to see if a student could use a thermometer, you would ask him to demonstrate his skill on another person. Your measure might be invalid if you used another type of measure, e.g., writing an essay, drawing a picture.

E. Cautions

1. Remember that no method is infallible, and even a combination of methods may not supply all the information needed.
2. Do not try to gather all the information about an individual at one time. Plan a series of investigations into different aspects of the person.
3. Do not over-read data or make conclusions

Content Outline (continued)

not warranted by the information at hand.

4. Consider all information about an individual and his family as confidential and use it only in a professional manner.
5. Guard against creating too great a dependence on you by the person receiving your attention and understanding.
6. Generalize your observations in order to plan. However, do not let your findings lead to "typing," labelling, or total generalization about individuals. If a person is high or low in one area, this does not mean he will be the same in all others.
7. Keep your mind open and your conclusions tentative; all facts cannot be known, and individuals change.

F. Advantages and Disadvantages of Several Methods Commonly Used by Vocational Teachers

1. Cumulative Records. Most schools keep records of students which follow them as they transfer from school to school. Information may include:
 - a. family background;
 - b. schools attended;
 - c. courses taken;
 - d. grades;
 - e. anecdotal notations by past teachers and others;
 - f. attendance;
 - g. activities;

Content Outline (continued)

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|--|---|
| <p>h. standardized test scores (achievement, interest, aptitude);</p> <p>i. employment.</p> <p>The student's school health record, which is usually separate, includes the student's medical history.* *</p> <p>2. <u>Direct Observations</u>. Teachers are constantly observing their students, either as individuals or as parts of groups. Observing individuals in a variety of situations, both in class and out, can give the teacher a great deal of information about them. Studying and analyzing their written work can do the same. Teacher observations must be recorded and made a part of the students' records.</p> <p>3. <u>Interviews/Conferences</u>. Interviews can be held with the learner himself or with people who have knowledge about him, such as parents, other teachers, and employers. Through a series of questions, the interviewer gathers information; the amount and validity is determined in large part by the rapport that is established. Interviews can involve two people or, in some cases, small groups. These are usually called conferences. Notes must be taken and kept.*</p> <p>4. <u>Ratings/Checklists</u>. A rating is a structured evaluation in which the rater assesses an individual on various attributes using pre-defined categories. Learners can rate themselves or be rated by teachers, peers, employ-</p> | <p>* Students should complete Class-room Activities 4 and 5 which relate to Goal 1.2.</p> <p>* See Discussion Question T in Part III.</p> <p>* See Discussion Question U in Part III.</p> |
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Content Outline (continued)

ers, and others; they can be rated in a variety of areas, including cooperation, dependability, skill level, etc.*

5. Tests/Assessments. This is one of the most formal methods of observing individual differences. Tests can be:
- performance-based, oral, or paper-and-pencil;
 - essay or objective;
 - timed or untimed;
 - measures of ability, achievement, skills, aptitude, or interest;
 - given prior to, during, after, or instead of instruction;
 - other.*

* See Discussion Question V in Part III.

6. Other Methods. Several other methods of studying individual learners are used by educational psychologists, researchers, and others. Teachers, of course, are encouraged to learn and use these methods as time permits.
- Formal direct observations: carefully planned observations of behavior for specified periods of time.
 - Questionnaires: written survey forms containing numerous questions and/or incomplete statements.
 - Sociometric devices: questionnaires that produce diagrams of the social interactions within groups.
 - Autobiographies: in-depth, self-reported life histories.

* See Discussion Question W in Part III.

Content Outline (continued)

- e. Case studies: in-depth explorations of individuals that use many of the above methods and usually result in a "case history."
- f. Case conferences: meetings in which a single individual is discussed and analyzed by a team of specialists, including social workers, teachers, physicians, etc.

G. Study Activities

Based on your reading of the content outline and any additional references as suggested, complete the following activities.

1. Select five methods of gathering information about individuals and state at least one advantage and disadvantage of each.
2. Indicate the type of information about a learner you might be able to get from the following sources.
 - a. books/articles/films
 - b. learners themselves
 - c. other school personnel (indicate which)
 - d. parents/family members
 - e. other students
 - f. learner's employer
 - g. cumulative files
3. What methods would you personally use to obtain the following pieces of information about an individual?

Information	Method(s) You Would Use
a. height	
b. typing speed	
c. past grades	
d. relationships with other students in class	
e. writing ability	
f. grasp of theoretical knowledge of course	
g. parents' desire for learner's career	
h. opinion of you or your class	
4. Should teachers use student records? What are the arguments for and against? Which position do you support and why?
5. List at least four cautions for those who study individuals.

Goal 1.3

Content Outline	Activities-Resources
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Goal 1.3: Describe and Analyze Ways of Providing for Individual Differences in Vocational Education Programs.

A. Introduction: Ways of Providing for Individual Differences

1. Individual differences do exist among learners.
2. It is necessary to decide whether these differences should be seen as challenges or merely as problems to overcome.

B. Potential Difficulties

1. Educators in general are aware of individual differences among learners, but they have been given little training or experience in exemplary ways of utilizing these differences.
2. While teachers have been exposed to the theory of individual differences, they are insecure when faced with translating this theory into practice, and even in-service training conducted by school districts fails to bridge the gap between theory and practice.
3. Logistic problems such as the size of classes and lack of suitable materials sometimes prevent teachers from adequately meeting the individual needs of students.
4. Despite these very real problems, vocational educators are using a number of approaches to

Content Outline (continued)

deal with the individual needs of their students.

C. Educational Approaches to Individual Differences

1. Selective enrollment

- a. Often students are screened before enrolling in vocational programs.
- b. Those who do not meet the criteria are not permitted to enroll. Those not qualifying, however, are guided into programs for which they can qualify.

2. Homogeneous grouping

- a. Students are often grouped according to characteristics they have in common:
 - (1) intellectual ability,
 - (2) previous training and experience,
 - (3) interests,
 - (4) physical disabilities,
 - (5) manipulative activities,
 - (6) age, and
 - (7) others.
- b. As with selective enrollment, homogeneous grouping attempts to capitalize on the differences among the learners.

3. Informal Variations in Teaching Methods

- a. This method is used by all teachers, or nearly all.
- b. A teacher provides immediate help for one learner but not for others, trying to meet individual needs.

Content Outline (continued)

- c. A teacher allows options for term projects, etc., in an effort to consider individual needs and interests.
- 4. Remedial Instruction
 - a. Through tutoring, special remedial classes, and self-instructional materials, individuals are helped with problems in learning.
 - b. As with several other methods, this approach attempts to capitalize on the differences among learners.
- 5. Team Approaches
 - a. Skilled readers are paired with non-readers.
 - b. "Mass production" activities are planned with roles assigned (e.g., engineer, time-keeper, quality control inspector, factory "hand").
 - c. Instructors "team teach" classes.
- 6. Self-Instructional Materials
 - a. Through such devices as programmed books, teaching machines, and computers, individuals are allowed to learn at their own paces.
 - b. These approaches are attempts to meet differences in learning styles and differences in time requirements for learning.
- 7. Genuine Individualized Instruction
 - a. Real individualized instruction is a combination of many of these approaches.

Content Outline (continued)

- b. Individualized instruction is:
 - (1) not necessarily one-to-one instruction; and
 - (2) not necessarily self-instruction.
- c. Individualized instruction is the designing of instruction to meet the individual needs of each learner.
- d. It can and does include some or all of the following:
 - (1) self-instructional materials;
 - (2) one-to-one tutoring and discussion;
 - (3) activities in pairs;
 - (4) activities in small and large groups;
 - (5) media where appropriate;
 - (6) lectures, field trips, and other traditional approaches where appropriate.*

* Students should complete Classroom Activity 6 which relates to Goal 1.3. See Part III.

D. Impact on Vocational Education

- 1. All the methods described are being used in vocational education.
- 2. The approaches vary in effectiveness; all have advantages and disadvantages.
- 3. Many unanswered questions remain:
 - a. How can vocational educators be made aware of individual differences among learners? Should they be?
 - b. Should more research be done on individual differences, or should vocational educators concentrate on implementation of what is already known?

Content Outline (continued)

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- c. Is individualized instruction the answer in today's schools? What other problems does it present?

E. Study Activities

1. Assume you are the new vocational education department chairperson for your school. As you anticipate the coming school year, what are some of the potential difficulties that your vocational teachers may face as they try to meet the individual differences of their students? What difficulties might you have with the individual differences among your teachers?
2. List several ways that individual differences among learners are handled by the schools in academic subjects and in vocational subjects. In your opinion, how successful are these attempts?

Wrapup Activity

NOTE: To meet the basic requirements of this module, complete one of the following activities. If you wish to gain additional credit beyond the basic requirements, consult with your instructor about completing a second activity.

1. Compare and contrast the following groups:

Type of Group	Potential Similarities	Potential Differences
males/females		
high school graduates/ high school dropouts		
home economics students/ T&I students		
married women/single women		
Blacks/Caucasians		

Type of Group	Potential Similarities	Potential Differences
high school vocational students/community college vocational students		
only children/children from large families		
middle-aged career changers/entry-level workers		
vocational teachers/English teachers		
administrators/teachers		
Others of your choice:		

2. Observe a student's performance in a vocational education class for at least a week. Try to note the student's vocational skills, relationships with others, obvious interests and attitudes, and other factors that seem important to you. Analyze the results in a short paper.
3. Based on the concept of "know thyself" and based on the premise that insights gained from analyzing your own learning style are necessary before you can understand how other students learn, write a short paper that analyzes your learning style as applied to three specific new tasks: one cognitive, one psychomotor, and one affective.
4. Plan and implement an activity of your choice.

Part III:

Group and Classroom Activities

PART III

GROUP AND CLASSROOM ACTIVITIES

Classroom Activities

NOTE: The following activities are designed for use in the classroom to stimulate discussion on specific topics covered in this module. The activities are designed to be used following student self-study; however, depending on the background and abilities of students, these activities may not require previous study. All classroom activities are keyed to the content outline to indicate an appropriate point for participation.

1. Ask the class to break into pairs. For 5 to 10 minutes have the pairs interview one another and list as many ways as they can in which they are similar and different. Ask several pairs to share their lists with the group and discuss the results.
(Example: Similarities: both female, same college major, both married with one child; differences: one blonde, other brunette; one Italian, other French; one from California, other from New York)

2. Divide the class into two to four groups, preferably into all-male and all-female groups. Give each group two large pieces of newsprint. On the first sheet have them list at least three stereotypes they have heard about males and three stereotypes about females. Have the groups tape their lists to the wall and spend a few minutes viewing and discussing the results.

(Example: Males: should not cry, are the providers, like sports, are aggressive, prefer passive women, etc.; women: belong in the home, want children, are the weaker sex, prefer dominant men, aren't good with money, etc.)

On the second sheet, have them list several ways in which vocational education could improve opportunities for both males and females.

Post and discuss these results.

(Example: encourage males and females to enroll in all courses, use both sexes in publicity photos, have rap groups to discuss sex stereotyping, have in-service education programs on this topic, ask men and women in nontraditional roles to speak to groups)

3. Divide the class into small groups, preferably according to field of specialization. Ask each group to list briefly the interests, aptitudes, and abilities that are desirable for a worker in their field. Have the group members share and discuss their lists. Note any similarities and differences that arise and discuss the implications for vocational education.

(Example: Business: good with numbers, likes details, neat, good under pressure, etc.; Health occupations: likes people, not disturbed by physical injury, willing to work varied hours, etc.)

4. Choose two teams of three students each to debate the following issue:

"Should teachers be allowed to see students' cumulative records?"

Limit each group to five minutes for an opening statement and five minutes for rebuttals. Discuss the presentations. Bring up the question of whether or not students, parents, and employers should have access to student records.

(Example: Yes: helps in planning, acquaints teacher with potential problems, helps teacher know more about quiet ones, etc.; No: invades privacy, may be errors that prejudice reader, people should be judged on present not past, etc.)

5. Write three statements for inclusion in the cumulative record about critical incidents occurring in your classroom which are descriptive of the behavior.

- a. A reoccurring discipline problem. (Example: Johnny has been late every morning this week despite a talk with him and his parents, a meeting with the vice principal, and one suspension. . .)
- b. A comment related to a student's creative ability. (Example: Sarah seems to have an unusual artistic ability. During her free time this week, she designed and painted a beautiful, original poster for Career Day. I suggested to her that. . .)

- c. Betty's leadership abilities are emerging this semester. Although she was shy in the beginning, she is now one of the best liked. Today her classmates nominated her for student representative. . .)
6. You have a class of 28 students in vocational horticulture. Describe a plan of organization to provide for individual differences that includes five students who are non-English speaking and who are enrolled in an English as a Second Language class and three students who are physically handicapped but of normal intelligence.
(Example: Team non-English speakers with native speakers; try to issue some directions in their native language; pair physically handicapped with nonhandicapped if their handicap is one that interferes with the learning in this class; develop self-study modules for the course; let students progress at own rates; lecture very little--provide many projects in which students can help each other; include field trips; let different students lead the activities; eliminate any architectural barriers that exist in the classroom, etc.)
7. Divide the class into groups of three or four to discuss the following topics:
- a. How have we treated individual differences in this course?
(Students were screened before entering, self-study modules allow individuals to work at their own speeds, small-group discussions allow for expression of individual ideas, etc.)
 - b. Do the self-instructional modules meet your needs as students?
(Yes: am an independent worker, like to do the work in my own home, etc.; No: need more structure, too much content, not enough content, like to meet as group, etc.)
 - c. How could this course be more tailored to individual needs?
(Use pre-test to see what you already know and then skip those parts, use study teams or study pairs to discuss material, etc.)

Discussion Questions

- A. Can you give an example of how one growth pattern affects another?

(A child that is extremely heavy for his/her age may have difficulty relating to classmates; an emotionally immature person may have problems adjusting to school, thus interfering with intellectual development, etc.)

- B. What effects can individual differences in physical development have in the classroom?

(Problems with size of furniture, attitude of other students toward child with weight problem or handicap, selective assignment of tasks that require extra strength, etc.)

- C. How can vocational education programs contribute to social development?

(Paired and group activities teach cooperative planning and decision making; work experience teaches social skills needed on the job.)

- D. What are some additional developmental tasks of adolescents?

(Preparing for marriage or other serious romantic relationships, gaining economic independence, coping with bodily changes, evaluating individual potential in relation to career decision making.)

Adults?

(Progressing in a career, using leisure time in a satisfying way, adjusting to second careers, or to new technologies which make original careers obsolete, preparing for retirement.)

What implications do these tasks have for curriculum development?

(Need to meet the needs of learners by discussing ways of coping with problems; role-playing solutions, etc.; difficulty in teaching material not related to current developmental tasks.)

- E. What experiences have you had with adult learners? From your experience, contrast learning styles of adults and teenagers. What implications, if any, do differences in student ages have for vocational education programs?

(Problems with cross-age tutoring, helping older learners avoid embarrassment due to unfamiliar situations, need to relate curriculum to developmental tasks, etc.)

- F. What changes in vocational education, if any, have you noticed as a result of the women's (and men's) liberation movements? What problems have you seen? Can you suggest ways to avoid more problems in the future? What adjustments must still be made in present vocational education programs to accommodate these changes?

(The stereotypes of occupations for men versus women are gradually disappearing; however, the physical situations in shops and laboratories inhibit women in trade classes--for example, unisex dressing rooms in auto mechanics or privacy situations in cosmetology.)

- G. Can you think of other types of abilities (artistic, mechanical, etc.)?

What physical skills are required in your vocational field of expertise? What intellectual skills?

How do individuals cope with stress or pressure?

(Withdrawal, disruptive behavior, crying, physical problems, drinking, etc., as well as more "healthy" ways of releasing tensions: physical exercise, verbal expression of feelings.)

What are some techniques based on learning psychology that will help relieve stress or pressure?

(Encouraging release through other avenues such as physical activity, talking about feelings with others in same situation, etc.)

- H. What different cultural groups are represented in your community? This class? What traditions or customs are associated with these groups? Can these differences be utilized in vocational education programs?

(Yes, by allowing individuals to share cultural attitudes toward work, visit rural and urban areas, have exhibits of handicrafts.)

- I. What other differences might occur as a result of family income?

(Parents may push child to go to college, father may be able to help son or daughter into apprenticeship program, child may not be motivated to work if parents are on welfare.)

- J. Do you prefer to teach beginning or advanced students? Why? What is the role of vocational education in the new trend toward mid-career changes?

(Should teach people how to change careers and where to go for counseling and retraining.)

- K. How can teachers cause students to be motivated?

(Provide external rewards such as praise, points, prizes; include students in planning and evaluation; provide learners with increased responsibility.)

- L. Why are beliefs and attitudes so difficult to change?

(They are associated with pleasant memories; it is easier to stay with the known; it is rewarding to keep the old attitudes.)

- M. What are some beliefs held by children?

(Santa Claus, Easter Bunny, tooth fairy, magic, fairy tales)

What is an example of a belief that you held for a long time before changing it?

- N. Have you ever had a "personality conflict" with a teacher or student? How did you handle this? Is it "wrong" for teachers to dislike certain students?

(It is certainly not realistic to expect teachers not to react to the differences in personalities of the students; however, the professional educator minimizes these personality conflicts. In an extreme case a teacher and a student may agree to disagree. Since vocational classes are elective the student has a choice. Much career decision making is shaped by the empathy the student has with a teacher.)

- O. How much should curriculum be based on student interests? Should vocational education programs be offered in subjects for which there are no job placements available?

(A curriculum should be based on student interests insofar as such interests can be satisfied in a way consistent with the educational goals of the instructional program. Since a major goal of vocational education is job placement, the immediate response to the second question might be "no." There are exceptions, however. For example, a member of a group that has been denied entry into an occupation because of prejudice might train for that occupation in an effort to break down barriers of discrimination.)

P. What factors can contribute to a positive self-concept?

(Supportive home environment, successes in school and at work, friends)

A negative self-concept?

(Repeated failures, critical parents, siblings, physical problems, learning difficulties)

Q. What effect do you feel the career education movement has had on the vocational maturity of individuals?

(More and more people know about careers and the world of work at an earlier age.)

Why do you think that vocational students are more vocationally mature?

(More exposure to careers, already made tentative choice, have often had work experience)

R. How would you describe your own learning style? What effects do differences in learning style have on vocational programs?

(Indicate need to individualize instruction, do more research on ways of accommodating different styles)

S. In your opinion, should individuals with special needs be taught in separate special classes or should they be integrated within regular vocational education programs? What experiences have you had with individuals with special needs?

(The trends in vocational education for special needs students are to "mainstream" them, that is, to integrate them into the regular instructional program. Segregation is not consonant with the philosophy of democracy either by race, creed, color, or handicap. On the other hand, vocational teachers need instruction on how to work with special needs students. Consideration must also be given to student-teacher ratios when "mainstreaming" special needs personnel.)

T. What are some of the advantages of reviewing cumulative records?

(Provided the information is valid and interpreted correctly, the file can provide a wide variety of background information; since this is a permanent record, students may be motivated to perform well in order to have a commendable record; when files are "open," parents and students can be certain to include valuable positive information.)

What are some of the disadvantages?

(Information may be incorrect; scores may be misinterpreted; records can bias some teachers; students may be unfairly categorized on the basis of a single "official" comment; files that are "closed" may be an invasion of the individual's privacy.)

U. What are some advantages of the interview?

(People are usually able and eager to talk to a willing listener; the interview can quickly produce a large quantity of useful information; it allows for face-to-face contact in which the concerns of each party can be covered; both have a chance to respond, ask questions, clarify unclear points, etc.)

Disadvantages?

(Inexperienced interviewers may be too formal, place the learner on the defensive or probe sensitive areas too soon; comprehensive interviews take considerable time both to conduct and to analyze.)

V. What are the advantages of ratings?

(Ratings can provide objective information about an individual by which he can be compared to others or to his previous performance; since they are structured, ratings or checklists can be done in a relatively short time.)

Disadvantages?

(Ratings can be ambiguous; unless rating scales are definitely outlined and raters are trained, judgments will vary; a "halo effect" obscures the pattern of traits within the individual--the observer's general opinion about the individual influences ratings on specific traits.)

W. What are the advantages of tests?

(They provide a variety of information in a relatively short time; they enable teachers to assess their own instruction; they enable learners to assess their strengths, progress, and standing; they permit a wide sampling of subject matter.)

Disadvantages?

(Many learners fear or dislike tests and do not give a true sample of their competencies; tests are often misinterpreted and misused; poor tests can discourage or antagonize students.)

Part IV:

Student Self-Check

PART IV

STUDENT SELF-CHECK

GOAL 1.1

1. What four major types of growth and development are common to all individuals? (1.12)
2. What is a developmental task? (1.12)
3. Name two developmental tasks for each age group. (1.12)
 - a. Adolescents
 - b. Adults
4. List ten areas of potential differences among learners. (1.12)
5. State five ways that adult learners can differ from adolescent learners. (1.13)
6. What are the main causes of individual differences? How are they related? (1.12)
7. What are three reasons for studying individual learners? (1.11)

GOAL 1.2

8. State five cautions that should be used when studying individuals. (1.23)
9. List five methods of gathering information about individual learners. State one advantage and one disadvantage for each of the methods. (1.21, 1.22)

GOAL 1.3

10. Briefly describe some of the major difficulties that can arise as a result of individual differences in the classroom. (1.31)
11. Briefly describe three strategies that are being used to deal with individual differences within vocational programs. (1.31, 1.32)

Part V:

Appendices

PART V

APPENDICES

Appendix A:

Possible Study Activity Responses

NOTE: The following are examples of possible answers, not necessarily the only answers. If your answers are similar, you are definitely on the right track!

GOAL 1.1

1. Reasons why knowledge of individual characteristics is useful:

- a. to plan instruction to meet individual needs;
- b. to identify potential problems before they become more serious;
- c. to show personal interest in the individual;
- d. to learn more about oneself.

2.

Other Person	Ways in Which	
	the two of you are similar	the two of you are different
Parent	Both are Democrats. Both like to play tennis. Both are tall. Neither smoke.	I smoke; he doesn't. I went to college; he quit after 8th grade. He loves fishing; I hate it.
Spouse	Both love kids. Both are light sleepers. Both are Mexican-American. Both are very active.	She loves L.A.; I prefer New York. She likes to save money; I prefer to spend. She wants a career; I want her to stay home.
etc.		

3.

WAYS INDIVIDUALS DIFFER

Difference	Example	Implications for Education
a. Interests		Include a variety of active and passive activities; let students' interests be "rewards" for good work, etc.
b. Physical size		Avoid teasing either; let each have chance to excel in own area.
c.	X learns best through lectures; Y prefers to discuss ideas with others; Z learns best by reading alone.	
d. Educational background		May or may not have implications for vocational education if reading ability is sufficient; individualize learning as much as possible to take care of interests and experiences.
e.		Try to let each share experiences with class such as through oral presentations, craft demonstrations, etc.

f. Ability/
Personality

X usually knows the answers and loves to be recognized; Y becomes extremely embarrassed when speaking and even stays home to avoid it.

g.

X has no idea what to talk about in an interview and is very shy about meeting strangers; Y has been through several.

Role-play several interviews in which X and Y have chances to be both applicant and interviewer; practice "small talk" in addition to formal answers.

h. Social Development/
Personality

X is a new, slow student who is shy; Y is an above-average "old timer."

i.

X comes from a well-to-do family; Y is from a low-income family.

Probably no implications for education unless learning abilities are obviously different. If Y's situation is extreme, e.g., poor nutrition, may assist by alerting appropriate helping sources.

j. Interests/
Aptitudes

X thinking of a career in politics; Y seems to lean toward journalism.

4. Differences between adult learners and younger learners. Adults often have:

- a. voluntary attendance;
- b. competing responsibilities;
- c. different expectations;
- d. different self-concepts;
- e. heterogeneity of age, background, goals;
- f. broad bases of experience;
- g. more rigid habits;
- h. need for immediate application of learning;
- i. problem-centered approach to learning;
- j. different physical abilities;
- k. different physical requirements.

GOAL 1.2

1. Methods of Gathering Information

Method	Advantage	Disadvantage
a. Books, articles, films	provide up-to-date information	many produced to "sell"; may be too general
b. Cumulative records	provide otherwise unknown information	may prejudice reader; may contain errors
c. Interviews/conferences	allow face-to-face contact; can clarify misunderstandings	time consuming; difficult to arrange
d. Ratings/checklists	can be done in short time	can be ambiguous; halo effect obscures pattern
e. Tests	provide much information in short time	can discourage student

2. Information that can be obtained from each:

- a. books, articles, films: general background information on all types of differences
- b. learners themselves: interests, experience, personality, learning style, background, etc.
- c. other school personnel
Teachers: abilities, interests
Counselors: self-concept, vocational maturity, abilities, interests
- d. parents/family: family background, expectations for learner
- e. other students: social relationships, experience
- f. learner's employer: vocational skills, social on-the-job skills, vocational maturity, various abilities
- g. cumulative files: academic ability, family background, educational background, other

3. Methods Used for Particular Information

<u>Information</u>	<u>Methods You Would Use</u>
a. height	observation (measure directly), ask learner (interview)
b. typing speed	test
c. past grades	cumulative file
d. relationships with other students in class	observation, sociometric measures
e. writing ability	observation
f. grasp of theoretical knowledge of course	test (oral, written)
g. parents' desire for learner's career	interview, questionnaire
h. opinion of you or your class	interview, questionnaire

4. Arguments for and against teachers having access to cumulative records:

Pro

- a. Information in records can help teachers to know their students, to set standards, to understand why particular students are having difficulties.

Con

- a. Teachers may prejudice themselves unnecessarily when they study records and test results.
- b. Knowledge of test results and IQ scores may cause teachers to set standards for students that are unrealistically high or low.

5. Cautions in studying individuals:

- a. No method is infallible; even a combination of methods may not supply all of the information needed.
- b. Don't try to gather all of the information about an individual at the same time. Plan a series of investigations into different aspects of the person.
- c. Do not over-read data or make conclusions beyond them.
- d. Consider all information confidential.
- e. Guard against too great a dependence on you by the individual receiving your attention.
- f. Do not over-generalize, typecast, label individuals. If the individual is high or low in one area, this does not mean he is the same in all others.
- g. Keep your mind open and your conclusions tentative; all facts cannot be known, and individuals change.

GOAL 1.3

1. Potential difficulties:

Potential difficulties in meeting needs of students:

- a. lack of training in individual differences;
- b. lack of training in individualizing instruction;
- c. large classes make it difficult to provide needed individual help to all without aide(s);
- d. low budget restricts amount of materials that can be bought;
- e. students not accustomed to individualized instruction may resist and ask for "old" approach, parents may also resist.

Potential difficulties due to differences among teachers:

- a. abilities to handle differences will differ among teachers;
- b. "old timers" may resist attempts to team teach or to individualize instruction;
- c. disagreements may occur due to divisions among teachers;
- d. students will probably flock to the better teachers;
- e. everyone may blame you for the problems.

2. Approaches to individual differences:

- | | |
|---|--|
| a. Selective enrollment | f. Remedial instruction |
| b. Homogeneous grouping | g. Team approaches |
| c. Nongraded classes | h. Self-instructional materials |
| d. Non-promotion/
acceleration | i. Genuine individualized
instruction |
| e. Informal variations in
teaching methods | |

Appendix B: **Possible Self-Check Responses**

GOAL 1.1

1. What four major types of growth and development are common to all individuals? (1.12)

- physical
- mental (intellectual)
- emotional
- social

2. What is a developmental task? (1.12)

A problem or obstacle that individuals face at different periods of their life development.

3. Name two developmental tasks for each age group. (1.12)

(Consider the student answer correct if it includes any two from each group.)

- a. Adolescents: achieving emotional independence from parents and other adults, coping with bodily changes, relating to opposite sex, acquiring set of values, making tentative career plans, gaining economic independence
- b. Adults: establishing a home, finding work, raising children, progressing in a career, using leisure time in satisfactory way, adjusting to children leaving home, adjusting to declining physical abilities, preparing for retirement

4. List ten areas of potential differences among learners. (1.12)

(Consider the student answer correct if it includes any ten of the following.)

rate and extent of growth and development	educational background
physical appearance and maturity	needs and desires
age	motivation
sex	attitudes and beliefs
physical abilities	personality structure
mental abilities	interests
social maturity	aptitudes
emotional maturity	self concepts
cultural background	learning styles
family socioeconomic level	vocational maturity
intra-individual differences	

5. State five ways that adult learners can differ from adolescent learners. (1.13)

(Consider student answer correct if it includes any five of the following.)

voluntary attendance
competing responsibilities
expectations of school, teacher, and selves
self concepts
heterogeneity of age, background, goals
broad bases of experience
rigid habits and ways of doing things
need for immediate application of learning
problem-centered approach to learning
physical abilities
physical requirements

6. What are the main causes of individual differences? How are they related? (1.12)

Heredity and environment (nature and nurture). They are related in that both contribute to the growth and development of the individual, and it is difficult if not impossible to separate the relative interactions. For example, an individual's athletic ability is based partly on his inherited physical structure and partly on his practicing, eating correctly, etc.

7. What are three reasons for studying individual learners? (1.11)

(Consider student answer correct if it includes any three of the following.)

- to plan instruction to meet individual needs
- to identify potential problems before they become more serious
- to show personal interest in the individual
- to learn more about one's self

GOAL 1.2

8. State five cautions that should be used when studying individuals.
(1.23)

(Consider student answer correct if it includes any five of the following.)

- Literature, media, etc. should be considered as background information about individuals only, not as completely true for all individuals.
- Do not let your reading or observations cause you to stereotype or artificially group individuals.
- If an individual exhibits certain characteristics, it does not mean that he or she will be similar in other ways to the others in that group.
- No methods for studying individuals are infallible.
- Do not overread data and make conclusions beyond them.
- Consider all information about individuals confidential.
- Guard against too great a dependence on you by the person being studied.
- Keep conclusions tentative; not all facts can be known, individuals do change.

9. List five methods of gathering information about individual learners. State one advantage and one disadvantage for each of the methods. (1.21, 1.22)

(Consider the student answer correct if it includes any five of the following.)

books, articles, films, etc.	ratings/checklists
cumulative records	autobiographies
direct observations	tests/assessments
interviews/conferences	case studies
questionnaires	case conferences
sociometric techniques	

(Note: See pp. 30 to 33 of this guide for advantages and disadvantages.)

GOAL 1.3

10. Briefly describe some of the major difficulties that can arise as a result of individual differences in the classroom. (1.31)

Educators are not aware of individual differences for a variety of reasons, mostly due to their preservice and in-service training. Consequently, they do not know how to meet the needs of individuals in the classroom.

Such logistical problems as large classes and lack of materials can make it difficult to provide for individual differences.

11. Briefly describe three strategies that are being used to deal with individual differences within vocational programs. (1.31, 1.32)

(Consider the student answer correct if it includes any three of the following.)

- selective enrollment to eliminate those who do not meet the criteria for the course
- homogeneous grouping, based upon differences in intellectual ability, previous experience, etc., in attempting to minimize differences
- nongraded classes to allow students to move at their own speed; they are usually in elementary schools

11. continued

- nonpromotion/acceleration to attempt to meet the variances in time required by students to learn; students "skip a grade" or "flunk" a grade
- informal variations in teaching methods is an attempt by all teachers to use selective rewards, offer options on projects, etc.
- remedial instruction to attempt to remove individual differences by correcting learning problems
- self-instructional materials, such as programmed books, computers, and teaching machines, to allow students to work at their own pace
- genuine individualized instruction combines several approaches; it is not limited to one-to-one tutoring and self-instruction.

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